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Endings and Visions of New Beginnings: The Effects of Source of Unemployment and Duration of Unemployment on Entrepreneurial Intent

Abstract: This study adopts the push-entrepreneurship perspective and develops a conceptual framework grounded in prospect theory, in order to investigate whether source of sunemployment, layoff in particular, and duration of unemployment stimulate entrepreneurial intent. We also propose that fear of failure and risk propensity moderate the source/duration–entrepreneurial intent relationships. We test our hypotheses using survey data from a sample of unemployed individuals. Results show that both layoff and duration of unemployment are stimuli for higher entrepreneurial intent, and the source of unemployment-intent relationship is moderated by fear of failure and risk propensity. We discuss the implications of these results.

Keywords: Entrepreneurship, unemployment, layoff, prospect theory

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1 Introduction

The idea that motivation is necessary in the entrepreneurial process is well established (e.g., McMullen, Bagby, and Palich 2008; Shane, Locke, and Collins 2003; Shaver and Scott 1991; Shepherd, McMullen, and Jennings 2007). However, deliberations about the source of entrepreneurs' motivation have resulted in contrasting perspectives, commonly called the "push" entrepreneurship perspective and the "pull" entrepreneurship perspective (see, for example, Cromie and Hayes 1991; Gartner, Shaver, Carter, and Reynolds 2004; Schjoedt and Shaver 2007). Supporters of the pull entrepreneurship perspective argue that compelling opportunities are recognized by nascent entrepreneurs and pull

them into entrepreneurship (Gilad and Levine 1986; Kirzner 1979). In contrast, the push entrepreneurship perspective argues that a variety of situational factors, such as job or life situation, press people toward entrepreneurship as a way of escaping the context in which they find themselves (Cromie and Hayes 1991; Stoner and Fry 1982). Although entrepreneurial opportunities are relevant to both perspectives, the cognitive framings about the desirability and feasibility of opportunity pursuit are thought to be different, depending on whether pull or push dynamics are involved (Gartner, Bird, and Starr 1992; Herron and Sapienza 1992; Schjoedt and Shaver 2007).

The present study seeks to contribute to the push model of entrepreneurship. Studies that have taken the push perspective have looked at how job dissatisfaction (Cromie and Hayes 1991), entrepreneurial identity (Vesalainen and Pihkala 1999), tolerance for risk (Segal, Borgia, and Schoenfeld 2005), life satisfaction (Schjoedt and Shaver 2007), and general unemployment (Ritsila and Tervo 2002; Taylor 2001) influence a variety of variables related to entrepreneurial outcomes. In today's economic environment, unemployment appears to be an especially important variable that may push people into entrepreneurship. The global economic crisis has resulted in high unemployment rates in many nations, as well as reduced expectations for re-employment by the long-term unemployed (von Wachter 2010). The United States, for example, has seen large-scale layoffs in numerous industries, and unemployment rates are at historically high levels (Cooper and Kopicki 2011; Rampell 2011). Further, recent Bureau of Labor Statistics reports show that the average length of unemployment in the United States has increased from 20 weeks in 2009 to 40.5 weeks as of September 2011 (Rich 2011). Many of the unemployed, particularly the long-term unemployed, are likely to at least think of the possibility of starting a business, simply because they see reduced likelihood, despite their efforts, of generating income in the employment market.

Despite its centrality to current events and to entrepreneurship research, the relationship between unemployment and new venture creation remains shrouded in ambiguity (Audretsch, Carree, Van Stel, and Thurik 2005; Ritsila and Tervo 2002). Empirical research on the topic is based largely on secondary data, and has not provided the clarity required. For example, Carree (2002, 21) found that "lagged unemployment appears to be a significant push factor of business ownership." In contrast, Choi and Phan (2006) did not find a significant relationship between unemployment and new firm formation in the United States.

One possible explanation for the mixed findings is that unemployment is a nuanced phenomenon, and researchers have not yet developed theory or empirical methods appropriate for teasing out those nuances. To remedy this gap, we suggest that unemployment involves a number of unique dimensions that may

influence an unemployed person's willingness to bear risk and his/her evaluation of the desirability and feasibility of entrepreneurship. These risk assessment, desirability, and feasibility cognitions are important because they affect the person's openness to pursuing entrepreneurship as a career option. In the present study, we investigate two specific dimensions – the source of unemployment (involuntary layoff vs. voluntary departure from a job) and duration of unemployment – as potential drivers of individuals' intentions to start a business (Bird 1988; Fitzsimmons and Douglas 2011; Krueger, Reilly, and Carsrud 2000). Further, we consider the role of stable dispositional variables (fear of failure and general risk propensity) in moderating the relationship between source of unemployment and entrepreneurial intent, and also the relationship between duration of unemployment and entrepreneurial intent. Investigating these main and moderating effects will help cut through the fog of ambiguity that currently surrounds the linkage between unemployment and entrepreneurship.

To study the relationships referred to above, we develop a theoretical model that integrates the core tenets of prospect theory (Kahneman and Tversky 1979) with entrepreneurial cognition research on the formation of entrepreneurial intentions (cf. Bird 1992; Krueger et al., 2000). Prospect theory posits that individuals judge situations differently depending on whether they are framed as a loss or a gain (Kahneman and Tversky 1979), and this framing influences the individual's willingness to take risks. Research on entrepreneurial cognition advances the idea that an individual's intentions to become an entrepreneur are a function of the degree to which the individual sees entrepreneurship as desirable and feasible for him or herself (Segal, Borgia, and Schoenfeld 2005). Taken together, prospect theory and the literature on entrepreneurial cognition suggest two important points relevant to the intent to pursue entrepreneurship. First, to the extent that involuntary unemployment (e.g., layoff) and long-term unemployment represent loss frames, individuals will become more receptive to risks when they experience these conditions. This receptiveness to risk will enhance an individual's willingness to contemplate the act of entrepreneurship. Second, involuntary unemployment and long-term unemployment will make entrepreneurship appear more desirable and feasible, because entrepreneurship offers the possibility of restoring control and income that are interrupted by a layoff or long-term unemployment. Also, both layoff and long-term unemployment free up time for pursuing entrepreneurship. This suggests that as people are laid off or experience extended unemployment, they will undergo a cognitive reframing process that changes their perceptions of the risk, desirability, and feasibility of entrepreneurship. We expect this reframing process to lead to higher levels of entrepreneurial intent.

However, this process does not unfold independent of personal traits, as implied by a long line of research on the role that individuals' personality traits play in the formation of entrepreneurial intention (e.g., Burmeister-Lamp, Lévesque, and Schade 2012; Krueger 2000, 2003, 2007). To incorporate such traits into our model, we argue that an individual's fear of failure (Atkinson 1957) and innate risk propensity (Meertens and Lion 2008) moderate the influence of both layoff and long-term unemployment on an individual's entrepreneurial intent.

We test the relationships referred to above with survey data collected from a sample of unemployed persons who were clients of a private contractor that provides employment services to a Midwestern state government. Such data are different from the secondary data sets and student samples common in entrepreneurial intention studies (cf. Krueger, Reilly, and Carsrud 2000; Fitzsimmons and Douglas 2011; Souitaris, Zerbinati, and Al-Laham 2007). By surveying actual unemployed persons at the micro level of analysis, our data provide a new window into the nuances of unemployment and how those nuances influence the formation of entrepreneurial intentions. The results confirm our main effects hypotheses about the positive influence of layoff and duration of unemployment on entrepreneurial intent, and also demonstrate moderating effects of fear of failure and risk propensity on the relationship between layoff and entrepreneurial intent.

The results of our study are important because they suggest that life situations, such as loss of a job through layoff, or a long period of unemployment, can increase the perceived desirability and feasibility of entrepreneurship in a way that impels individuals to bear the risk of that activity. The resulting entrepreneurial intent can stimulate planning that underpins the new venture creation process (Corbett and McMullen 2007; Dimov 2010). Also, in suggesting interaction effects of personality traits and life situation, our findings support the person–situation nexus approach to entrepreneurship (cf. Krueger 2003), and refine conclusions from past push entrepreneurship work (Figueroa-Amijos, Dabson, and Johnson 2012; Schjoedt and Shaver 2007; Vesalainen and Pikhala 1999). Specifically, our finding that fear of failure and risk propensity moderate the source of unemployment–entrepreneurial intent relationship produces a more nuanced portrayal of the role of context–disposition combinations in catalyzing entrepreneurial intent.

2 Theory

2.1 The formation of entrepreneurial intent

To begin the development of our theoretical framework, we call on prospect theory (Kahneman 2011; Kahneman and Tversky 1979; Tversky and Kahneman

1981). Prospect theory argues that people make risk calculations based on perceptions of gain or loss relative to a salient reference point (Kahneman and Tversky 1979). The reference point is part of the act of framing, which is defined as a mental representation of the "acts, contingencies, and outcomes that are relevant to a decision" (Tversky and Kahneman 1992, 299). Hence, risk perceptions change depending on whether the action, as compared to the reference point, is seen as a pursuit of gain or as loss mitigation (Kahneman and Tversky 1979). Empirical tests of prospect theory predictions have shown that people are more willing to bear risk in loss mitigation than in pursuit of gain (Holmes, Bromiley, Devers, Holcomb, and McGuire 2011; Levy 1992; Plous 1993). Translated into everyday practice, this means that losses loom large in decision-making, and people go to great lengths to avoid or recover a loss, even when doing so involves substantial risk. This effect also becomes stronger when losses appear to be certain, as opposed to merely probable (Tversky and Kahneman 1981, 455).

Since a layoff involves involuntary loss of income, benefits, and control over circumstances, it is an event that puts individuals into a loss frame. Correspondingly, a long duration of unemployment represents an evolving loss frame situation. As individuals experience long stretches of unemployment, we expect that they will become more certain that achieving re-employment is unlikely. When this happens, hopes of restoring lost income, benefits, and control through traditional employment are diminished, and the loss frame associated with layoff and long periods of unemployment is likely to make individuals more receptive to risk. This makes the prospect of becoming an entrepreneur more desirable and feasible than it otherwise would be. These perceptions of desirability and feasibility are important because they are considered to be drivers of entrepreneurial intention.

Entrepreneurial intention is based on the theory of planned behavior (Ajzen 1985, 1991; Ajzen and Fishbein 2005) and it is defined as the "self-acknowledged conviction by a person that they *intend* to set up a new business venture and consciously *plan* to do so at some point in the future" (Thompson 2009, 676). One important aspect of the work on entrepreneurial intention is Shapero's notion of "precipitating events" that dislodge people from the rigidity of existing thinking such that entrepreneurship becomes more personally relevant (Shapero and Sokol 1982). What appears to happen is that major life events stimulate cognitions associated with perceptions that entrepreneurship is something they want to do (individual considerations of desirability) and something they can do (individual considerations of feasibility) (cf. Dimov 2007, 2010; Krueger and Dickson 1993). Specifically, discerning the desirability of entrepreneurship is a judgment about the potential advantages of pursuing self-employment (Segal

et al., 2005), while perceptions of feasibility concern an individual's judgment that he or she can muster the necessary skills and tools required to have a reasonable "shot" at pursuing entrepreneurship. This suggests that feasibility assessments are about the degree to which one thinks that entrepreneurship is a "personally credible" (Krueger 2003, 117) career path. Taken together, the literature has established that the more positive perceptions of desirability and feasibility are, the greater the intention to start a business (cf. Krueger 2000).

2.2 Layoff as a stimulus for entrepreneurial intent

In the management literature, considerable attention has been devoted to the phenomenon of layoff (see McKinley, Zhao, and Rust 2000, and Parker and McKinley 2008, for reviews). One branch of this literature focuses on the effects of layoffs on the individuals who lose their jobs (Leana and Feldman 1992; Leana and Ivancevich 1987; Pugh, Skarlicki, and Passell 2003). This work is uniform in emphasizing the psychological stress that layoffs cause (Leana and Ivancevich 1987). Layoffs also result in a loss of income for those who are laid off, as well as a loss of status as a job-holder, and often a loss of health insurance and other benefits. Finally, a layoff involves a loss of control for the victim. Cognitively, this is perhaps the most significant issue affecting the layoff victim, because he or she has no choice about leaving employment.

In the logic of prospect theory, layoff is distinct from other modes of unemployment (e.g., voluntary departure or voluntary retirement) because of the loss frame it imposes on the layoff victim. Consistent with Kahneman and Tversky's (1979) research, we anticipate that this loss frame will make layoff victims more receptive to risk as they consider activities that might lead to a recovery of income, status, and control. This increased openness to risk should be evident when laid-off employees are compared with their contemporaries who have departed jobs voluntarily – i.e., those without a similar loss frame.

Though the loss frame initiated by layoff may open the individual up to risk bearing, there are many ways that this might manifest itself. A specific focus on entrepreneurship as the risk bearing activity also requires that the person experiencing the layoff view entrepreneurship as desirable and feasible. Because being laid off is a traumatic experience, it can serve as a precipitating event (Shapero 1982) that stimulates perceptions that entrepreneurship is desirable and feasible, as well as an activity whose risk is tolerable. For the individual who has suffered a layoff, entrepreneurship provides a desirable path that would allow him/her to avoid the uncertainties of future employment, which might involve another layoff. It is ironic that entrepreneurship has the potential

to reduce uncertainty in this manner, but job instability after layoff is common today (von Wachter 2010), and threat of future downsizing (Brockner, Grover, O'Malley, Reed, and Glynn 1993) is a significant concern for all layoff victims. A layoff victim may perceive entrepreneurship as a desirable route to avoiding such uncertainty. In addition, layoff victims are likely to perceive entrepreneurship as feasible, partly because the loss of employment they have experienced frees up time for them to pursue entrepreneurial activities. Individuals who have been laid off do not have to cut corporate ties in order to pursue a business start-up, because those ties have already been cut for them.

In summary, we believe that layoff status activates a trio of cognitions – tolerance for risk, judgments that entrepreneurship is desirable, and judgments that entrepreneurship is feasible – that in turn will enhance entrepreneurial intent. Therefore, layoff victims will be particularly oriented toward new venture founding and the possible restoration of income and control that such an activity offers. Naturally, the intention of starting a business may not result in actual start-up, but intention represents the cognitive projection of a future state that would mitigate losses stemming from current layoff status. Based on this logic, we expect that layoff victims, relative to other employees who have left jobs through voluntary departure, will have higher entrepreneurial intent. Stated as a formal hypothesis:

H1: Those who have become unemployed through involuntary layoff will have greater intentions of starting a new business than those who have become unemployed by voluntary departure.

2.3 Duration of unemployment as a stimulus for entrepreneurial intent

While source of unemployment (layoff vs. voluntary departure) is a likely influence on the degree of entrepreneurial intent, we also argue that duration of unemployment will play an important role in influencing entrepreneurial intent. As mentioned in the introduction, our focus on the duration of unemployment is particularly appropriate, given the steady increase in the average length of unemployment in the United States (Rich 2011). If we consider the duration of unemployment through the lens of Kahneman and Tversky's (1979) concept of loss framing, we infer that the experience of loss, especially loss of control, is likely to become greater as the individual is unemployed longer (von Wachter 2010). Lengthy unemployment erodes the unemployed person's confidence about re-employment, whether the person left his/her previous job voluntarily, or was laid off. Long-term unemployment raises the possibility

that the unemployed person may not achieve re-employment at all. Therefore, long-term unemployed persons experience a growing sense of loss. This is particularly likely in today's job market, where many employers have begun insisting that candidates applying for open positions be currently employed (National Employment Law Project 2011; Rampell 2011). As a period of unemployment increases, the loss associated with that status will become more salient to the individual, and thus the loss frame experienced by the individual will get stronger. Therefore, we believe that any individual who remains unemployed for a significant length of time will become increasingly receptive to the risk entailed in any activity that has the potential to remove the loss frame.

Despite this argument, questions can be raised as to whether loss framing is a discrete event or a phenomenon that endures over time, as we have suggested it can. Simon, Fagley, and Halleran (2004) addressed this issue by asking if "framing effects disappear when decision makers process the decision to a greater degree" (78). They found that the depth of processing did not eliminate framing effects. Thus, in the case of lengthy unemployment, individuals are likely processing the decision about what to do next at a deep level, and the loss framing entailed in the unemployment situation is likely to endure. As a result, we believe prospect theory logic is applicable, and we suggest that long-term unemployment will stimulate an increased willingness to bear risk.

While there are a number of risky activities that might mitigate the loss frame imposed by long-term unemployment, one is starting a new business, and we believe that long-term unemployment enhances cognitions about the desirability and feasibility of that activity. For the long-term unemployed, a business venture may seem a desirable alternative to uncertain prospects of a future job with a new employer. As the duration of unemployment grows, it becomes an increasingly aversive event that, when coupled with the loss frame discussed above, is likely to trigger changes in how the individual views the desirability and feasibility of self-employment. The feelings of helplessness and loss of control that accompany a long period of unemployment may indeed make entrepreneurship much more desirable in the wake of such an experience. Similarly, the feasibility of entrepreneurship should also be enhanced because the long-term unemployed have time to pursue the planning of a new venture, to perform market research, and to conduct other activities that focus intent and are preliminary to actual business founding. In an age where people increasingly start businesses by "making do" with the limited resources available (Baker and Nelson 2005; Sarasvathy 2001; Stinchfield, Nelson, and Wood 2012), time and energy become catalysts for entrepreneurship. Therefore, long-term unemployment, which provides time and may also focus the energy of the unemployed person, will tend to stimulate the cognition that entrepreneurship is

feasible. When this happens, positive assessments of feasibility will be coupled with a positive view of desirability, combined with a newfound willingness to bear risk. We posit that this trio of cognitions will merge to foster an increase in entrepreneurial intent. We formalize this logic in a second hypothesis:

H2: Duration of unemployment will be positively related to entrepreneurial intent, such that those who have been unemployed longer will have greater intentions of starting a new business.

2.4 Influence of stable individual dispositions

Recent push-entrepreneurship literature has called for an inclusion of individual difference variables (e.g., Schjoedt and Shaver 2007) as a way to better understand the dynamics associated with push-entrepreneurship phenomena. In response, we consider some fundamental dispositional traits that influence cognitions and behavior. These dispositions can be "shaped to some degree by early experience, but are generally stable and enduring enough to give consistent direction to people's lives" (Motowidlo, Borman, and Schmit 1997, 78). While some events or situations may influence fundamental dispositions, they tend to endure, and change relatively little over time. Some examples of stable individual differences include perceptual styles and personality dimensions, such as agreeableness and openness to experience (Barrick and Mount 1991). Stable dispositions differ from habits, preferences, and attitudes, which change as one encounters unique situations and learns from past experience (Wilson, Kraft, and Dunn 1989).

In our study, we are interested in how stable dispositions impact individuals' responses to the contextual conditions of layoff or long-term unemployment. There is strong evidence that stable individual differences do not directly affect overt behaviors, such as job performance (McCrae and Costa 1996). Instead, they interact with other variables (e.g., contextual or adaptational learning) to influence cognitions and behaviors (Hunter 1983).

There is considerable social psychology and entrepreneurship literature suggesting that fear of failure and risk propensity are two stable dispositional variables that affect entrepreneurial outcomes (Atkinson 1966; Elliot and McGregor 1999; Meertens and Lion 2008; Mitchell and Shepherd 2010; Wood and Rowe 2011). We integrate these two variables into our model by proposing that they have moderating effects on the two primary relationships argued above: the effect of layoff on entrepreneurial intent, and the influence of duration of unemployment on entrepreneurial intent. In other words, variations in fear of failure and in risk propensity across individuals determine how they

assimilate the conditions of layoff and long-term unemployment, molding the development of cognitions that stimulate entrepreneurial intent. We elaborate this logic more fully in the two sub-sections below.

2.4.1 Moderating role of fear of failure

Fear of failure has been defined by Atkinson (1966, 13) as the capacity or propensity to "experience shame or humiliation as a consequence of failure." Empirical work has demonstrated that fear of failure generally leads to negative outcomes (see Elliot and Thrash 2004; McClelland 1985). One conclusion drawn from this research is that "individuals high in fear of failure have learned to define failure as an unacceptable event that carries negative implications for their self-worth and relational security" (McGregor and Elliot 2005, 219). Hence, individuals who have high disposition toward fear of failure are typically hesitant to move forward because they worry that they do not have the capacity to deal with failure. Thoughts about the consequences of failure inhibit action. Fear of failure is not something an individual experiences, but rather it is part of who someone "is." In other words, fear of failure is an enduring part of a person's core identity (Mitchell and Shepherd 2010, 143).

Fear of failure has been shown to influence opportunity related cognitions and decision making (Mitchell and Shepherd 2010; Wood and Rowe 2011), and social psychology research has also shown that individual differences can mitigate framing effects (Simon, Fagley, and Hallerman 2004). The implication for our model is that fear of failure may impact the risk tolerance, desirability, and feasibility cognitions associated with the loss framing engendered by layoff or long-term unemployment. Entrepreneurship is an achievement situation where the consequences of failure are significant. Because those high in fear of failure are generally less likely to expose themselves to such situations, the loss frames associated with a layoff or long-term unemployment are less likely to stimulate entrepreneurial intent in those high in fear of failure. Put slightly differently, fear of failure reduces the odds that an individual will see entrepreneurship as something they want to do (desirability) as well as something that they can do (feasibility) (Dimov 2007; Krueger and Dickson 1993). This means that there will ultimately be important variations in entrepreneurial intent as fear of failure modifies the responses of individuals to a layoff or a period of long-term unemployment. Expressing this logic in terms of the "push" metaphor, a layoff and long-term unemployment will push individuals toward higher entrepreneurial intent, but fear of failure will moderate that push. This suggests the following hypotheses:

H3a: Fear of failure will moderate the positive relationship between the source of unemployment (voluntary departure vs. layoff) and entrepreneurial intent, such that the greater the fear of failure the less positive the relationship.

H3b: Fear of failure will moderate the positive relationship between duration of unemployment and entrepreneurial intent, such that the greater the fear of failure the less positive the relationship.

2.4.2 Moderating role of risk propensity

A second stable dispositional variable that influences the entrepreneurial process is entrepreneurs' risk propensity. Meertens and Lion (2008, 1508) defined risk propensity as an individual's general "tendency to avoid or take personal risks." Researchers have historically assumed that entrepreneurs are more willing to bear risk than traditional wage earners (Knight 1921; McClelland 1961). However, empirical evidence has shown that, on average, there is little difference in risk profiles between these two categories of individuals (e.g., Brockhaus 1980; Miner and Raju 2004). This suggests that entrepreneurs are not necessarily a breed apart, and instead share the same variance in propensity toward accepting and bearing risk that all people do (Evans and Leighton 1989; Macko and Tyszka 2009). Because risk and uncertainty are unavoidable when undertaking entrepreneurial action (Knight 1921; McMullen and Shepherd 2006), entrepreneurs must bear risk if they are to engage in entrepreneurship.

We have already argued that the loss frames associated with layoff and long-term unemployment are likely to make people cognitively more receptive to risk as they seek ways to mitigate loss of income and control. However, the degree to which this happens is likely to be influenced by the individual's enduring propensity toward bearing risk. For those who are predisposed toward avoiding risk, the loss frame associated with a layoff or long-term unemployment will produce an uptick in risk tolerance, but that effect will be much weaker than it is for those who have more positive disposition toward risk. For the risk-averse, there is a conflict between the pressures exerted by a layoff or long-term unemployment and the resulting loss frame, on the one hand, and the natural orientation to avoid risk-taking. This conflict will interfere with the development of entrepreneurial intent. Alternatively, for those individuals with higher disposition toward risk, the loss frame induced by a layoff or enduring unemployment will result in a more optimistic assessment of the desirability and feasibility of pursuing entrepreneurship, and a greater tolerance of the downside risk. This means that the "push" toward entrepreneurial intent induced by

layoff and long periods of unemployment should be especially influential for high-risk propensity persons. Summarizing this reasoning, we state the following hypotheses:

H4a: Risk propensity will moderate the positive relationship between the source of unemployment (voluntary departure vs. layoff) and entrepreneurial intent, such that the lower the risk propensity the less positive the relationship.

H4b: Risk propensity will moderate the positive relationship between duration of unemployment and entrepreneurial intent, such that the lower the risk propensity the less positive the relationship.

3 Method

3.1 Sample and data

To test the hypotheses stated above, we collected primary survey data from currently unemployed individuals. We bounded our sampling frame by considering only those individuals who were unemployed but actively seeking opportunities for employment. We reasoned that even though such individuals were seeking employment, starting a business would also be a viable alternative for them, because it would be an alternate route to restoring the loss engendered by unemployment. Therefore, these individuals would be candidates for experiencing the variations in entrepreneurial intent that we argue are caused by differences in source and duration of unemployment.

Gaining access to a sample of unemployed persons is difficult, but we resolved this problem by collaborating with a private, state-funded employment services organization in the summer of 2010. This organization is located in the state of Illinois, and provides services such as skills training and job search and placement to displaced workers or underemployed individuals at locations throughout the state. The agency's services are contracted for by the State of Illinois, and are offered free of charge to clients. Given the poor economy at the time of data collection, the agency director informed us that a large number of the agency's clients had been laid off due to downsizing or plant closures. This made the agency's clients a particularly appropriate sample for testing our hypotheses. The agency director agreed to facilitate the study with our assurance that we had clearance from our university's Human Subjects Committee, and our guarantee that we would preserve client anonymity. We obtained prior approval from the agency for all the questions we asked, and we allowed the agency to retain control over all communication with respondents.

After collaborative discussions with the agency director, we concluded that a web-based survey would be the best way to collect data from agency clients. Each of the organization's offices had multiple computer terminals, so participants were able to complete the survey without having to own a personal computer or have a private Internet connection. Given that some individuals in our target population may not have had a functioning e-mail account, we used four approaches to publicize our study: (1) the employment agency sent an e-mail containing our recruitment script and a link to the online survey to all the agency's clients who had provided e-mail addresses; (2) we placed flyers directing people to the online survey on an information table in four of the employment agency's offices; (3) we placed a link to the survey on the primary information page of the agency's website; and (4) we recruited individuals by personally handing out flyers during three special employment events at the agency's offices.

In each of our four approaches, we used a different URL web-link. This allowed us to track which method brought the most people to the online survey. A total of 115 individuals responded to the survey. Participants primarily responded to the flyers we placed or handed out directly (n = 51), and to the director's personal e-mail recruitment message (n = 41). There were also 23 respondents recruited by links from the agency website. To be sure that the different recruitment methods were not inducing a response bias (Kanuk and Berenson 1975), we compared respondents' age, education, and work experience across the different recruitment methods. The results of a one-way ANOVA revealed no significant differences between the recruitment methods regarding respondent age ($F(3,115) = 0.59$, $p > 0.05$), education ($F(3,115) = 1.25$, $p > 0.05$), or work experience ($F(3,115) = 0.83$, $p > 0.05$).

We carefully inspected response data and found six incomplete surveys. We removed those from the data set. Upon further inspection, we found some cases where the respondents had been unemployed for extraordinarily long periods. Paul and Moser's (2009) meta-analyses on the mental health effects of unemployment encountered a similar issue, and these authors decided to exclude those unemployed for more than 3 years, reasoning that moving beyond this threshold increases the likelihood of capturing respondents who do not seek work. We felt it appropriate, therefore, to follow extant research and limit our sample to those who had been unemployed for 36 months or less. This resulted in the removal of six more surveys. Finally, we found that three individuals became unemployed via forced retirement. Because our theory compares layoff with voluntary departure, and forced retirement fits neither category, we removed these three surveys as well. This brought our final sample size to 100 unemployed individuals,

and these were used in the data analysis. Studies based on primary data from the unemployed are rare, but our sample size is consistent with recent management research that also collected such data (Wanberg, Zhu, Kanfer, and Zhang 2012).

Our final sample consisted of 56 males and 44 females. Respondent ages ranged from 18 to 63, with a mean age of 36.05 and an average of 16.88 years of work experience. Sixty-six respondents were involuntarily laid off and 34 had departed their jobs voluntarily. The individuals in our sample had been unemployed from 4 weeks to 128 weeks, with a mean of 46.56 weeks, which is near the current national average (Rich 2011). In the State of Illinois, voluntary departures are not eligible for unemployment benefits, and 34 individuals (34%) fell into this category. Of the 66 who were eligible, 28 were receiving unemployment benefits at the time of the survey, and 38 were not. Of the 38, 27 had been unemployed for 52 weeks or longer. The State of Illinois provides initial unemployment benefits for 33 weeks, and in the months preceding our study a 16-week extension had been granted by the legislature. Thus, the 27 who had been unemployed for 52 weeks or longer had likely exhausted their unemployment benefits. The remaining 11 may have not known about unemployment benefits or may have neglected to apply.

3.2 Measures

3.2.1 Entrepreneurial intent

Thompson (2009, 676) has defined entrepreneurial intent as the "self-acknowledged conviction by a person that they *intend* to set up a new business venture and consciously *plan* to do so at some point in the future." We measured this construct with a scale previously developed and validated by Thompson (2009). Thompson's (2009) scale includes six substantive items and four distractor items not used in our analysis. Following Thompson's (2009) approach, each item was measured on a continuum ranging from 1 (very untrue) to 6 (very true). Sample items from the six-item scale are "I intend to set up a company in the future" and "I spend time learning about starting a firm." We conducted a scale reliability analysis, and the results in our data set revealed an acceptable Cronbach's alpha of 0.78. This alpha coefficient suggested that it is appropriate to average the scores to form an overall indicator of entrepreneurial intent. Higher values on the scale indicate greater entrepreneurial intent. Responses on this scale ranged from 1 to 5 with a median response of 3.16.

3.2.2 Source of unemployment

We operationalized source of unemployment (layoff vs. voluntary departure) by asking respondents to indicate how they became unemployed, and by providing them with the following response options: (1) layoff; (2) voluntary departure; (3) voluntary retirement; (4) forced retirement; (5) other. As noted above, we eliminated the three forced retirement cases, and we were able to use respondent explanations provided with the "other" responses to categorize the six "other" responses into the voluntary departure (e.g., I left to take care of children) or the layoff (e.g., the position was eliminated) categories. The voluntary departure and voluntary retirement cases were compiled into an aggregate "voluntary departure" category. We then coded the layoff cases "1" (n = 66) and the voluntary departure cases "0" (n = 34).

3.2.3 Duration of unemployment

This variable captures how long the individual had been unemployed at the time of the survey. We operationalized this variable by asking the respondents to indicate the "number of months unemployed."

3.2.4 Risk propensity

Risk propensity is a respondent's innate tendency to take personal risks. We measured this variable using six items from Meertens and Lion's (2008) risk propensity scale. A sample item from the scale is "I take risks regularly." Each item was measured on a continuum ranging from 1 (totally disagree) to 7 (totally agree). We followed Meertens and Lion's (2008) approach and reverse-coded the negative scale items. This means that on the scale, higher values indicate higher risk propensity. The scale was found to be reliable in our data set, with a Cronbach's alpha of 0.86. The six items were averaged to form an overall risk propensity score for each respondent.

3.2.5 Fear of failure

We measured respondents' innate fear of failure using a 5-item scale developed by Conroy, Willow, and Metzler (2002). Each item was scored on a continuum ranging from 1 (do not believe at all) to 5 (believe 100% of the time). A sample

item from the scale is "When I am failing, I worry about what others think about me." The scale proved reliable in our data set, with a Cronbach's alpha of 0.79. The five scale items were averaged to form an overall fear of failure score for each respondent. On this scale, higher values indicate greater respondent fear of failure.

3.2.6 Control variables

We controlled for the respondent's work experience, his or her level of education, and his or her unemployment benefit status (whether or not (s)he was receiving unemployment benefits at the time of the survey). Work experience was measured as the total years of work experience, education was measured using a multipoint scale indicating highest level of education attained, and receipt of unemployment benefits was measured with a dichotomous variable (1= yes; 0 = no). We included the first two control variables because prior studies (e.g., Shane 2003) have shown that work experience and level of education influence entrepreneurial action, and thus these two variables are potential confounds of our relationships of interest. We included unemployment benefit status because our theory argues that the loss caused by involuntary layoff or long-term unemployment is an important contextual determinant of receptiveness to risk and the level of entrepreneurial intent. Respondents receiving unemployment benefits might experience less loss than those not receiving benefits, and thus the variable has the potential to mask the effects of source of unemployment or duration of unemployment on entrepreneurial intent. Finally, it is worth noting that we did not control for geographic region because our sample was drawn entirely from the Midwestern United States, nor did we control for such factors as profession or industry background. Those data were unavailable due to confidentiality restrictions imposed by the employment service agency.

3.3 Common method bias

One possible weakness of our survey is that both the independent and dependent variables were measured with a single survey instrument, and thus common method bias becomes a possibility. This concern is reduced, however, by the fact that our independent variables (source of unemployment and duration of unemployment) are both objective conditions that did not require interpretation by the respondent. Respondents were simply asked to report a factual status

in responding to these two questions, and thus the likelihood that the method used biased the relationships between these variables and the dependent variable is small. However, to further lower the odds that common method bias would impact our results, we used proximal and methodological design procedures recommended by Podsakoff, Mackenzie, Lee, and Podsakoff (2003). This involved randomizing the order of the item presentation and including some "red herring" or distractor items.

To assess the effectiveness of these design procedures, we conducted a Harman's single factor test. This widely adopted technique uses factor analysis, under the assumption that if common method bias is a serious problem, a single general factor will emerge or one factor will account for the majority of the variance in both the independent and dependent variables (Aulakh and Gencturk 2000). Following this logic, we performed a principal components analysis using all the variables in our study. The solution extracted four factors with eigenvalues greater than one. No general factor was present, and Factor 1 accounted for only 20.59% of the variance. Thus, when viewed diagnostically, the factor analysis suggests that common method bias is not a problem in this study. We acknowledge that Harmon's test is not always optimal and sometimes other methods (e.g., structural models) may be more accurate (Podsakoff et al., 2003). However, our sample size prohibited structural methods. Based on the design of our instrument and the fact that no general factor was observed, we believe Harmon's technique is an adequate diagnostic for our data.

3.4 Analysis procedure

To test Hypotheses 1 and 2, we used linear regression analysis. In our first model, we regressed the entrepreneurial intent scale on the three control variables: education, work experience, and unemployment benefits status. Then, in Model 2, we added the two independent variables: source of unemployment and duration of unemployment. Positive regression coefficients for these variables would indicate support for Hypotheses 1 and 2.

To test Hypotheses 3a, 3b, 4a, and 4b, we utilized moderated regression analysis (Brambor, Clark, and Golder 2005; Cohen, Cohen, West, and Aiken 2003). We computed an additional regression model (Model 3) in which entrepreneurial intent was regressed on all the variables in Model 2, plus the two moderators from H3a–H4b: fear of failure and risk propensity. Then, in Model 4, a cross-product term between fear of failure and source of unemployment was added to the predictors in Model 3. In Model 5, the fear of failure × source of unemployment cross-product term was removed, and a cross-product term

between fear of failure and duration of unemployment was introduced. The regression coefficients for these two cross-product terms permit a test for Hypotheses 3a and 3b.

Continuing the moderated regression procedure, in Model 6 we removed the fear of failure × duration of unemployment cross-product term and substituted a cross-product term between risk propensity and source of unemployment. In Model 7, the risk propensity × source of unemployment term was removed, and a cross-product term between risk propensity and duration of unemployment was entered. The regression coefficients for the cross-product terms in Models 6 and 7 allow tests for Hypotheses 4a and 4b.

The moderated regression approach followed the recommendations of Brambor et al. (2005) and Cohen et al. (2003) that the researcher introduce cross-product terms one at a time. This approach reduces multicollinearity, and lowers the probability of biased estimates for the regression coefficients of the cross-product terms. As an additional protection against biases due to multicollinearity, we used mean-centering for the independent variables and the moderating variables in Models 4–7. To ensure that the effects of the cross-product terms in Models 4–7 were not confounded by the other cross-product terms left out of the equation, we also computed a final model (Model 8) that included all of the control variables, independent variables, moderator variables, and cross-product terms in a single regression equation.

Finally, to facilitate interpretation of the interaction effects, we graphed those interactions that were statistically significant following the general procedures described by Cohen et al. (2003) and McKinley (1987) (see the Appendix in McKinley 1987 for additional detail). The graphs presented in this paper were produced through a software package (Interaction!) that follows these procedures, and values of fear of failure and risk propensity two standard deviations above and below the mean of each variable were used in the graphing algorithm.

4 Results

Table 1 shows the descriptive statistics and zero-order correlations for each of the variables included in the analyses. Table 2 reports the standardized beta coefficients and *R*-square change statistics for each of the eight models described above. Model 1 includes the control variables, and it shows that education, work experience, and receipt of unemployment benefits are not significant predictors of entrepreneurial intent. Collectively, these variables explain 2.7% of the variance in entrepreneurial intent.

Table 1: Means, standard deviations, and correlations.

Variable	Mean	S.D.	1	2	3	4	5	6	7
1. Education	3.74	1.48							
2. Work Experience (years)	16.88		11.85	0.11					
3. Unemployment Benefits (dummy)	0.28	0.45	0.03	0.34**					
4. Source Unemployment (dummy)	0.66	0.48	−0.17	0.06	0.31**				
5. Duration Unemployment (months)	12.15	8.86	−0.06	0.21*	−0.07	−0.08			
6. Fear of Failure	3.03	1.05	0.14	0.03	0.12	−0.03	−0.11		
7. Risk Propensity	3.93	0.70	0.04	−0.16	0.02	0.05	0.04	−0.06	
8. Entrepreneurial Intent	3.13	0.99	0.06	0.15	0.11	0.18	0.37**	−0.10	0.28**

Notes: N = 100; Source of unemployment: Involuntary lay off = 66, voluntary departure = 34. *Correlation is significant at the 0.05 level; **correlation is significant at the 0.01 level.

Model 2 adds source of unemployment and duration of employment to the three control variables. The positive coefficient (β = 0.20, $p < 0.05$) for the source of unemployment variable provides strong support for Hypothesis 1. The coefficient indicates that respondents who lost their jobs through layoff have significantly higher entrepreneurial intent than their colleagues who voluntarily separated from their jobs. Correspondingly, the positive coefficient for the duration of unemployment variable in Model 2 (β = 0.39, $p < 0.01$) furnishes strong support for Hypothesis 2. The longer a respondent had been unemployed at the time of the survey, the stronger his or her entrepreneurial intent. R^2 change statistics show that the addition of source of unemployment and duration of unemployment to the regression equation increased the explained variance in entrepreneurial intent by 16.8%, and this change in R^2 was highly significant: $F(2,94) = 9.83$, $p < 0.01$.

Model 3 in Table 2 adds the two moderating variables (fear of failure and risk propensity) to the equation, and the results show that fear of failure has no main effect on entrepreneurial intent (β = −0.08, n.s.). However, as one might expect, risk propensity has a strong positive main effect on entrepreneurial intent (β = 0.27, $p < 0.01$). The main effects of source of unemployment and

Table 2: Results of hierarchical moderated regression analysis (standardized betas).

		Entrepreneurial intent						
Variable Model	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Controls								
Education	0.04	0.11	0.13	0.16*	0.12	0.12	0.12	0.16
Work experience	0.13	0.02	0.08	0.06	0.09	0.09	0.08	0.08
Unemployment benefits	0.06	0.06	0.05	0.06	0.05	0.06	0.05	0.07
Main effects push factors								
Source unemployment		0.20**	0.21**	0.20**	0.21**	0.22**	0.22**	0.23**
Duration unemployment		0.39***	0.38***	0.39***	0.37***	0.39***	0.36***	0.41***
Main effects moderators								
Fear of failure			−0.08	−0.26*	−0.13	−0.08	−0.08	−0.22
Risk propensity			0.27***	0.28***	0.30***	0.63***	0.28*	0.72***
Moderation effects								
Fear Fail × Source Unemployed				−0.41**				−0.43**
Fear Fail × Duration Unemployed					0.09			0.06
Risk Prop. × Source Unemployed						−0.44**		−0.42**
Risk Prop. × Duration Unemployed							0.08	0.06
Constant	2.81	1.93	1.82	1.70	1.83	1.81	1.87	1.63
F Change		9.83***	5.03***	6.53**	0.39	4.30**	0.30	–
R^2 Change		16.8%	7.9%	4.9%	0.1%	3.3%	0.00	–
R^2 Total	2.7%	19.5%	27.4%	32.3%	27.5%	30.7%	27.4%	35.9%

Notes: ***Significant at 0.01 level; **Significant at 0.05 level; * Significant at 0.10 level (two-tailed test with entrepreneurial intent as the dependent variable).

duration of unemployment remain positive and significant with the two moderator variables in the equation.

Model 4 is the analysis designed to test Hypothesis 3a. The negative, significant regression coefficient (β = −0.41, p < 0.05) for the cross product term between fear of failure and source of unemployment is consistent with

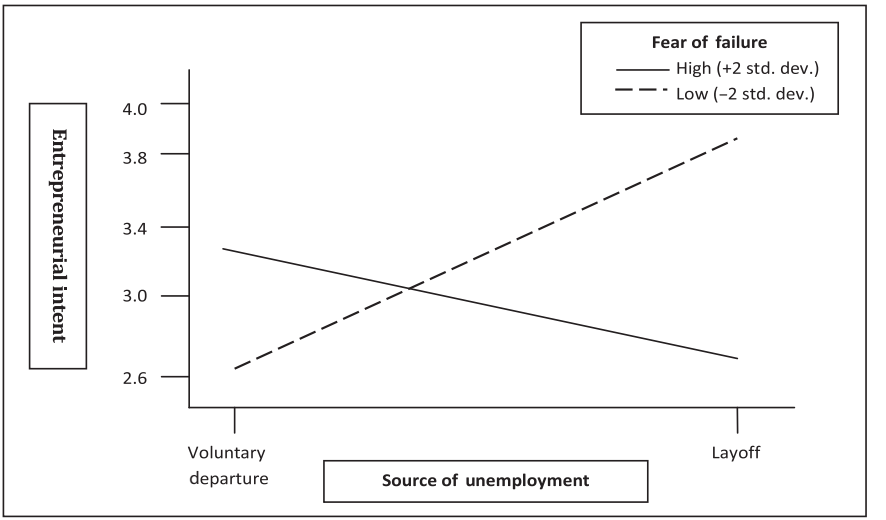

Figure 1: Source of unemployment and fear of failure interaction*.
Notes: *Lines are illustrative and do not indicate intermediate values between the categories of the independent variable.

the hypothesis, indicating that the source of unemployment–entrepreneurial intent relationship becomes less positive as fear of failure increases. Inspection of the graph constructed from the equation in Model 4 (see Figure 1) shows that the slope of the source of unemployment–entrepreneurial intent relationship varies across levels of the fear of failure variable. The slope is positive when fear of failure is low, but becomes negative when fear of failure is high. Thus, the stimulus that layoff provides to entrepreneurial intent appears to be contingent on the respondent's fear of failure: at high levels of fear of failure, the positive stimulus is dampened and may even become negative.

Model 5 is the analysis designed to test Hypothesis 3b. The lack of a significant regression coefficient for the cross-product term between fear of failure and duration of unemployment (β = 0.09, n.s.) provides no support for Hypothesis 3b. Inspection of the graph constructed from the equation in Model 5 (not shown) confirms this result. Fear of failure has no moderating effect on the duration of unemployment–entrepreneurial intent relationship. Whatever the level of respondent fear of failure, duration of unemployment is a strong stimulus for entrepreneurial intent.

Model 6 (Table 2) is the analysis designed to test Hypothesis 4a. The significant regression coefficient for the cross-product term between risk propensity and source of unemployment (β = –0.44, p < 0.05) is consistent with

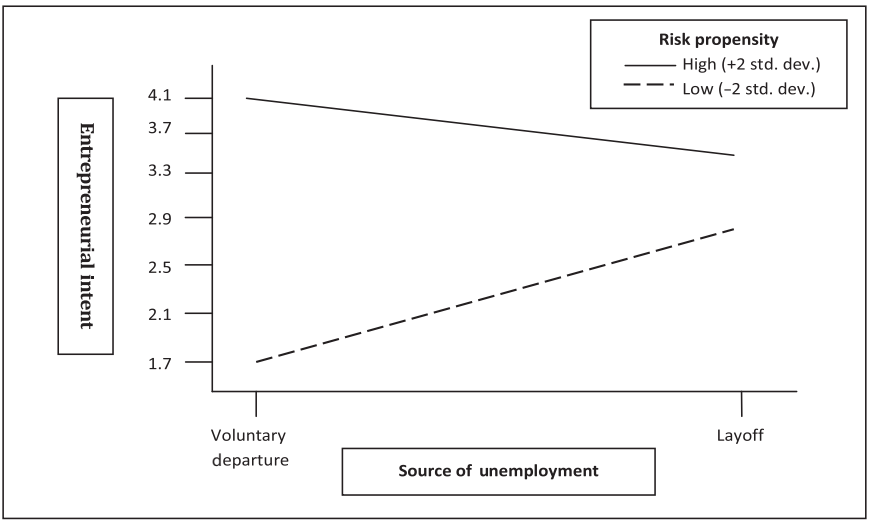

Figure 2: Source of unemployment and risk propensity interaction
Notes: *Lines are illustrative and do not indicate intermediate values between the categories of the independent variable.

a moderating effect of risk propensity, but the moderating effect is in the opposite-to-predicted direction. Inspection of the graphs derived from the equation in Model 6 (see Figure 2) shows that layoff status provides a stimulus for higher entrepreneurial intent when the respondent's risk propensity is low, but not when the respondent's risk propensity is high. Inferences from this counterintuitive result will be elaborated further in the discussion section below.

Model 7 is the analysis designed to test Hypothesis 4b. As was true for fear of failure, there is no evidence that risk propensity moderates the duration of unemployment–entrepreneurial intent relationship (β = 0.08, n.s.). The graphs (not shown) derived from the equation in Model 7 confirm this conclusion, demonstrating that duration of unemployment is a stimulus for entrepreneurial intent at all levels of respondent risk propensity. Thus, neither fear of failure nor risk propensity dampens the positive causal effect of duration of unemployment on entrepreneurial intent.

As a final step, we constructed a full model (Model 8) with all variables and interaction terms included. In this model, the regression coefficients are significant for the main effects of source of unemployment (β = 0.23, $p < 0.05$), duration of unemployment (β = 0.41, $p < 0.01$), and risk propensity (β = 0.72, $p < 0.01$) on entrepreneurial intent. For the moderating effects, the fear of failure

× source of unemployment term is significant ($\beta = -0.43$, $p < 0.05$), and the risk propensity × source of unemployment term is also significant ($\beta = -0.42$, $p < 0.05$). When compared with Models 4 through 7, it is clear that the significant cross-product terms in Model 8 follow the same pattern of magnitude and sign exhibited in Models 4–7. This shows that the significant cross-product terms in Models 4–7 are not being confounded by covariance with other cross-product terms, and the regression coefficients for these terms suggest independent effects on entrepreneurial intent. To ensure that multicollinearity was not distorting the results in the full model, we examined the Variance Inflation Factors for each of the variables and interaction terms in Model 8. Hair et al. (2006, 230) assert that, "a common cutoff threshold is a tolerance value of 0.10 which corresponds to a VIF value of 10." This means that multicollinearly is a serious concern if VIF values are greater than 10. In our case, VIF values ranged from 1.12 to 8.42. Of the eleven variables and interaction terms in Model 8, only three had VIF values greater than 3.5. Hence, we concluded that multicollinearity was not significantly distorting the regression coefficients.

5 Discussion

Our study sheds new light on the dynamics of unemployment by exploring the source and duration of unemployment as separate dimensions. Our results suggest that the conditions of layoff or long-term unemployment positively stimulate entrepreneurial intent. We have explained these results as the outcome of a trio of cognitions that flow from the experience of layoff or the status of long unemployment: an increased tolerance for risk, an enhanced belief in the desirability of entrepreneurship, and an enhanced belief in the feasibility of entrepreneurship. The loss of income, benefits, and control involved in layoff or long-term unemployment imposes a loss frame on the individual, and this frame makes the individual more receptive to risk that might ameliorate the loss (Kahneman 2011; Kahneman and Tversky 1979; Tversky and Kahneman 1981). Entrepreneurship is a risk-taking activity that offers the potential for mitigating the losses imposed by layoff or long-term unemployment, and we have also argued that both layoff and long-term unemployment increase the perceived desirability and feasibility of entrepreneurship. Therefore, layoff and long-term unemployment set in motion a discernible "push" toward entrepreneurial intent. The implication is that how one becomes unemployed and how long one has been unemployed are important determinants of one's propensity to engage in entrepreneurship. Entrepreneurial intent is not simply a function of the "pull"

associated with detecting compelling opportunities (Shane and Venkataraman 2000) – it can also emerge from the "push" of situational factors such as layoff or long-term unemployment.

While our study does not contain direct measures of the risk tolerance, desirability, and feasibility cognitions that we posit as foundations of entrepreneurial intent, future research could develop such measures and test the mediating effects of these cognitions on the relationship between source of unemployment and entrepreneurial intent, and also the relationship between duration of unemployment and entrepreneurial intent. Such research would clarify the cognitions generated by the experience of layoff and long-term unemployment, opening up new paths of investigation that would reveal how nascent entrepreneurs with a layoff or long-term unemployment background are pushed into entrepreneurship.

Our investigation of moderating effects suggests that the effect of duration of unemployment on entrepreneurial intent is not moderated by the individual's fear of failure or risk propensity. Regardless of the individual's scores on the fear of failure or risk propensity measures, long-term unemployment provides a stimulus to entrepreneurial intent, impelling the individual to intensify behaviors and cognitions that have been captured in standard measures (Thompson 2009) of intent to start a business. This is perhaps not surprising, because as time goes by and unemployed individuals are unable to find a job, entrepreneurship becomes increasingly seen as a desirable and feasible path for restoring lost income, status, and control. In the extreme, entrepreneurship may be seen as the only viable option for attaining these outcomes. As unemployment stretches on, and the loss frame that it entails persists, the unemployed individual becomes increasingly tolerant of the risks involved in starting a new business, and entrepreneurial intent is stimulated as a result. Neither fear of failure nor risk propensity appear to interfere with the duration of unemployment–entrepreneurial intent relationship, implying that in this case compelling situational factors override any inhibition to entrepreneurial intent that might normally be imposed by enduring dispositional variables. In the case of long-term unemployment, the situation appears to be dominant in the person–situation nexus (Shane 2003).

In contrast, our results indicate that the effect of source of unemployment on entrepreneurial intent is moderated by the individual dispositions of fear of failure and risk propensity. Layoff victims low in fear of failure experience higher entrepreneurial intent than their colleagues who have departed jobs voluntarily (see Figure 1). On the other hand, layoff victims high in fear of failure do not exhibit this enhancement of entrepreneurial intent, and their entrepreneurial intent may actually be lower than the scores of their colleagues

who have departed their jobs voluntarily (Figure 1). Thus, the source of unemployment and fear of failure interaction is an important determinant of entrepreneurial intent, implying that complex combinations of situational factors and personality can sometimes play a role in the emergence of entrepreneurship.

The interaction between risk propensity and source of unemployment is also a determinant of the level of entrepreneurial intent, but here the interaction is somewhat counterintuitive. As revealed by Figure 2, individuals low in risk propensity exhibit the layoff-induced stimulus to entrepreneurial intent, while individuals high in risk propensity do not. It may be that individuals high in risk propensity are already so receptive to the risks of entrepreneurship that their personal circumstances (laid off or voluntarily departed) do not matter much. Meanwhile, for those lower in risk propensity, personal circumstances act as a more important determinant of whether they are willing to contemplate the possibility of starting a new business.

In sum, our findings advance knowledge about the determinants of entrepreneurial intent by identifying cases where the combination of situation and individual disposition determines entrepreneurial intent, and other cases in which situation overrides any inhibiting effects of individual dispositions. More generally, our results help clarify the theoretical and empirical ambiguity surrounding the relationship between unemployment and entrepreneurship (Audretsch et al., 2005; Carree 2002; Choi and Phan 2006: Ritsila and Tervo 2002). We suggest that in future studies, researchers view unemployment as an unfolding experience that sometimes interacts with personality characteristics to influence the likelihood of starting a new business, and sometimes provides a push toward entrepreneurship that is independent of such personality characteristics. Viewed from this perspective, our study opens up the possibility of future longitudinal research that empirically examines the reciprocal, self-reinforcing (or self-correcting – Masuch 1985) relationships between unemployment and personal attributes and behaviors as they collectively influence entrepreneurship. One way to achieve this might be to use data from the Global Entrepreneurship Monitor. There is ample research that illustrates the efficacy of the GEM dataset generally (e.g., Hessels, Van Gelderen, and Thurik 2008), and specifically for economic development and unemployment studies (cf. Wong, Ho, and Auito 2005; Wennekers, Van Stel, Thrurik, and Reynolds 2005). The advantage of GEM data is that it is longitudinal and includes information from fifty-nine countries (Figueroa-Armijos, Dabson, and Johnson 2012). As such, it can be used to model the effects of specific events, such as recession (Figueroa-Armijos et al., 2012), and their influence on variables like push and pull entrepreneurship. Hence, researchers should consider GEM data as a

potential avenue for overcoming some of the limitations of our cross-sectional sample.

5.1 Implications for entrepreneurship theory

In addition to the inferences derived above, our results have implications for the broader literature on the entrepreneurial process and on opportunity identification (e.g., Shane 2003). Opportunity identification concerns efforts to find, imagine, and objectify promising business ideas for new entrepreneurial ventures (Dimov 2010; Wood and McKinley 2010). Entrepreneurship scholars have long recognized that the entrepreneurial process begins with "alert" individuals paying close attention to changes in the environments that give rise to entrepreneurial opportunities (Gaglio and Katz 2001; Kirzner 1979). But we know far less about the situational variables that stimulate such mindfulness (Corbett and McMullen 2007; Wood, Williams, and Grégoire 2012). The results of our investigation suggest that layoff and long-term unemployment may operate as such contextual stimuli. In other words, it is possible that being laid off or being unemployed for a long period of time may catalyze mindful attention to opportunity. This catalyzing effect may operate through increased risk tolerance, as prospect theory would suggest, but it may also be channeled through other cognitions, such as the desirability and feasibility cognitions we have discussed. Future theory and research could focus on the relationship between various aspects of unemployment and the opportunity creation or identification activities discussed by Baron and Ensley (2006), Sarasvathy (2001), Wood and McKinley (2010), and others.

An additional theoretical implication of our research comes from our findings regarding the moderating effects of risk propensity and fear of failure on the source of unemployment–entrepreneurial intent relationship. When contrasted with the results for duration of unemployment, which did not exhibit such moderating effects, these findings suggest the possibility of developing a contingency theory specifying the conditions under which situation–person interactions will drive business founding, and the conditions under which the situation will dominate to impel founding regardless of disposition. When is sense-making about the situation modified by enduring personality traits to frame the value of entrepreneurship in particular ways, and when is the situation so compelling that sense-making about it forms the dominant input to decisions about entrepreneurship? An attempt to answer this question would lead to theoretical insights that would elaborate the "push" perspective on entrepreneurship in a productive direction.

5.2 Implications for entrepreneurship practice

As the global economic crisis continues, unemployment remains a central issue of concern (von Wachter 2010). The United States, for instance, has seen large-scale layoffs in numerous industries, and unemployment rates are at historically high levels, as already noted (Cooper and Kopicki 2011; Rampell 2011). Given these trends, an improved understanding of the condition of unemployment has important practical benefits. In particular, insight about the relationship between unemployment and entrepreneurship could inform those on the front lines of the fight against unemployment. Typically, these are employment service agencies and the public policy makers who regulate and fund them. Our study provides some practical implications for these parties.

First, our study suggests that individuals who have been laid off are relatively receptive to the idea of starting a business, at least as compared with colleagues who have departed jobs in a more controlled way. Therefore, employment service agencies might consider moving beyond traditional employment services to offer such individuals entrepreneurship education and training in professional networking skills. This approach would allow laid-off individuals, especially those located in communities affected by mass layoffs (Johnstone and Lionais 2004; von Wachter 2010), to parlay developing entrepreneurial intent into actual business founding. In other words, employment service agencies could help laid-off individuals build on their cognitions about entrepreneurship to produce new businesses that might resist the high failure rate traditionally associated with necessity entrepreneurship (McMullen et al., 2008). Training of the sort we are advocating might also overcome the fear of failure that seems to dampen entrepreneurial intent among those who have suffered a layoff.

A similar recommendation can be made for policy toward the long-term unemployed. Employment service agencies and government agencies charged with helping these individuals might expand their organizational missions beyond assisting them in the search for traditional employment. These agencies might be ideal venues for communicating techniques for effective new business start-up to the long-term unemployed. Education and training in areas such as opportunity identification, feasibility analysis, venture financing, and networking techniques, as well as the day-to-day details of running a small business, would be beneficial. Through such training, the long-term unemployed might build on their emerging entrepreneurial intent to create businesses that have a reasonable chance of success and even of growth into sources of new jobs for others. Even if the newly educated employment services agency client did not become an entrepreneur, he or she would be better able to work as an

intrapreneur for corporate employers. The growing emphasis on innovation (Wood 2009) and strategic entrepreneurship (Ireland, Hitt, and Sirmon 2003) has resulted in corporations seeking out people who are entrepreneurial (Meager and Bates 2002). Thus, shifting some resources from traditional employment services to entrepreneurship education could leverage the increased entrepreneurial intent that is stimulated by long-term unemployment.

5.3 Limitations and future research

Our study has a number of limitations and many of these create opportunities for future empirical research. One limitation is that our sample of unemployed individuals is restricted to clients of an employment services agency. Because of this, it is possible that we missed an important group of individuals who have been laid off or have been unemployed a long time and are no longer interested in re-employment because they have reached a definite decision to open a business. This restriction may have truncated the variance in our entrepreneurial intent measure, because the individuals with the very highest level of entrepreneurial intent would not be captured in our sample. However, any such truncation in variance would make it more difficult to find support for our hypotheses, so the fact that the main effects of source of unemployment and duration of unemployment on entrepreneurial intent were statistically significant is noteworthy. Still, concerns over the make-up of our sample could provide an opportunity for future research that seeks out laid-off respondents or the long-term unemployed who are not clients of employment security agencies.

A second limitation is that we were unable to control for the level of entrepreneurial intent the respondent exhibited prior to unemployment. Most intention models are based on Ajzen's (1987) theory of planned behavior, and involve considerations of perceived behavioral control, attitudes toward the behavior, and subjective norms. The design of our study, and the restrictions placed on us by our employment services agency partner, prohibited collection of such data prior to unemployment. Data of this type could shed light on the change in entrepreneurial intent that results from specific circumstances like layoff or long duration of unemployment. It is possible that change in entrepreneurial intent may be more important than the net level of entrepreneurial intent that we capture in our survey. Future research might investigate this by identifying a random sample of employees from a range of employers, and then collecting data on perceived behavioral control, attitudes, norms, and entrepreneurial intent while the individuals are still employed. Those who become unemployed through layoff could be compared

with others in the sample who have left their jobs voluntarily, using the pre-unemployment data to factor out the influences of entrepreneurial intent before the job departure event.

Another limitation of our research is related to our measure of entrepreneurial intent. As discussed above, time frame considerations can be a salient issue in intention-based models. Thompson (2009) did not specify a time frame in the items composing his entrepreneurial intent scale, and he explained why in his study. The lack of a time frame for intentions is also reflected in the measures used by a number of other published entrepreneurial intent studies (e.g., Barbosa et al., 2007; Krueger et al., 2000; Obschonka, Silbereisen, and Schmitt-Rodermund 2010). However, future research could address the issue of time frames by collecting longitudinal data to show whether business creation actually follows entrepreneurial intent, and if so, how long the typical lag is between the formation of substantial intent and actual business founding. It is also possible that there are threshold levels of intent beyond which business founding becomes more likely, and future longitudinal research could explore the effects of layoff and long-term unemployment on the emergence and magnitude of these thresholds. All these considerations could open up a rich vein of future empirical investigation on the nuances of the creation of new ventures.

A fourth limitation is that the sample consisted of individuals from a relatively narrow geographical area. This has obvious disadvantages. First, it raises concerns over the degree to which our findings can be generalized to other geographical regions. Second, it raises the possibility that because of the region involved, respondents may tend to be blue-collar workers who may not have previously considered entrepreneurship as a career option. Regarding the first concern, we suggest that our findings be conservatively generalized to areas that have demographic characteristics similar to the Midwestern United States. With regard to the second concern, we acknowledge that the background and work history of our respondents may have influenced their entrepreneurial intent. To try to control for any such effect, we included years of work experience in our regression equations. However, we were unable to control for the *type* of work experience, and we think this is an opportunity for future research that would explore how work experience characteristics influence the entrepreneurial intent of the unemployed.

A final limitation is that our data did not capture respondents' current connections to entrepreneurial ventures or family businesses. It has been well documented that entrepreneurship and family business are major elements of the U.S. economy (Heck and Trent 1999; Schramm 2006), and this increases the likelihood that unemployed individuals will have connections to such ventures. However, if such connections dampened the entrepreneurial intent of our subjects, the fact that

we still found strong relationships between our predictors and entrepreneurial intent is evidence for the important role played by those predictors in stimulating entrepreneurial intent. Relatedly, we note that we were unable to design our study in such a way as to have a true control group. Instead, we separated our respondents based on naturally occurring variance in the mode of unemployment. Having said that, we believe that the groups included in our study provide useful insights about how the mode of unemployment influences entrepreneurial intent. Our results can also be used as a platform for investigating the entrepreneurial intent of other groups of unemployed workers. Research along these lines would likely enhance the generalizability of our findings.

6 Conclusion

This paper, consistent with other "push" entrepreneurship research, takes a slightly different perspective on the issue of how entrepreneur and opportunity are drawn together than the mainstream literature on entrepreneurial opportunity identification (e.g., Shane 2012; Shane and Venkataraman 2000). We suggest that conditions the entrepreneur experiences, like layoff or long-term unemployment, can motivate the entrepreneur to seek out opportunities that would not be attended to under different life circumstances. In this way, the entrepreneur is "pushed" to scan the environment for opportunity that could form the focus of a new business. The expected change in the life circumstances that have provided the push is as important to the entrepreneur as the more abstract notion of realizing opportunities for the sake of profit. Life circumstances may not only push the entrepreneur to locate opportunities, they may also determine how opportunities are constructed (e.g., Shane 2000; Wood and McKinley 2010). For example, the cognitions stimulated by layoff may influence the types of opportunity ideas that entrepreneurs conceive, as well as the social interactions they engage in to objectify those opportunity ideas into working ventures (Wood and McKinley 2010). Stable personality attributes undoubtedly modify this construction and objectification process as well, so that the individual–opportunity nexus (Shane 2003) not only pushes individuals to realize objective opportunities but also determines the types of opportunities they enact. These speculations extend the results reported in this paper, and if tested in future empirical research, could provide an interesting elaboration of our current knowledge about the detection and production of entrepreneurial opportunity. Such knowledge would have theoretical benefits, but might also enhance the capacity of individuals facing loss-inducing situations such as layoff or long-term unemployment to rectify that loss through entrepreneurship.

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